

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)						February 2002				
BUDGET ACTIVITY 4 - Demonstration/validation			PE NUMBER AND TITLE 0603802A - Weapons and Munitions - Adv Dev							
COST (In Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost		27520	34197	27761	19952	4955	0	0	0	126383
AS2	SMALL ARMS IMPROVEMENT	2247	1418	1042	0	0	0	0	0	6386
AS3	OBJECTIVE INDIVIDUAL COMBAT WEAPON (OICW) PD/RR	25273	29979	26719	19952	4955	0	0	0	117197
AS4	MORTAR SYSTEMS	0	2800	0	0	0	0	0	0	2800
<p><u>A. Mission Description and Budget Item Justification:</u>This program element addresses the modernization of existing Small Arms Weapon systems. This program develops existing and emerging technology to enhance lethality, target acquisition, fire control, training effectiveness and reliability for small arms weapons and mortar systems. It also supports development of the Objective Individual Combat Weapon (OICW) which represents the next generation individual soldier's weapon and provides the soldier with significant increases in individual weapon performance. It also provides for the Precision Guided Mortar Munition (PGMM). This is a precision strike round, using advanced sensors and guidance systems. It will be fired from the 120mm mortar weapon currently in the Army inventory. These systems support the Legacy transition path of the Transformation Campaign Plan (TCP).</p>										

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BUDGET ACTIVITY

4 - Demonstration/validation

PE NUMBER AND TITLE

0603802A - Weapons and Munitions - Adv Dev**B. Program Change Summary**

	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY2002 PB)	35847	31670	27861
Appropriated Value	36179	34470	0
Adjustments to Appropriated Value		0	0
a. Congressional General Reductions		-273	0
b. SBIR / STTR	-1067	0	0
c. Omnibus or Other Above Threshold Reductions		0	0
d. Reprogrammings	-7260	0	0
e. Rescissions	-332	0	0
Adjustments to Budget Years Since FY2002 PB	0	0	-100
Current Budget Submit (FY 2003 PB)	27520	34197	27761

Change Summary Explanation:

FY 2001 funding for OICW(\$-7.2M) reprogrammed to the Objective Crew Served Weapon (OCSW) program (PE 63607/D627) to properly execute requirement IAW Congressional intent.

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COST (In Thousands)				FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
AS2	SMALL ARMS IMPROVEMENT			2247	1418	1042	0	0	0	0	0	6386
<p><u>A. Mission Description and Budget Item Justification:</u> This project addresses the modernization of existing Small Arms Weapon systems. It provides funds to develop existing and emerging technology to enhance lethality, target acquisition, fire control, training effectiveness and reliability for small arms weapon systems and munitions. Current small arms include a variety of personal defense weapons (.38 caliber, .45 caliber; 9mm), individual weapons (5.56mm), crew-served weapons (5.56mm-40mm) and related equipment such as fire control, training devices, hand grenades and ammunition. Current efforts focus on improvements to the M249 Squad Automatic Weapon, M16/M4 Rifle, M203 Grenade Launcher, MK19 Grenade Machine Gun and M240B Medium Machine Gun. These small arms weapon systems support the Legacy transition path of the Transformation Campaign Plan (TCP).</p>												
<p><u>FY 2001 Accomplishments:</u></p> <div><div>M203 UPGRADES</div><div><div>•</div><div>294</div><div>Prototype Development</div></div><div><div>•</div><div>200</div><div>Designed/Fabricated Hardware</div></div><div><div>•</div><div>150</div><div>Test and Simulation</div></div></div> <div><div>M249 SHORT RANGE TRAINING AMMO</div><div><div>•</div><div>677</div><div>Contract Awarded</div></div><div><div>•</div><div>40</div><div>Developed and Fabricated Prototype</div></div><div><div>•</div><div>110</div><div>Conducted Proof of Principle Test</div></div><div><div>•</div><div>160</div><div>Requirements Review/Prepared Performance Spec</div></div></div> <div><div>M240 WEIGHT REDUCTION</div><div><div>•</div><div>47</div><div>Trade-Off Analysis</div></div><div><div>•</div><div>293</div><div>Evaluated Alternate Material Receivers</div></div><div><div>•</div><div>276</div><div>Evaluated Alternate Barrel Configuration</div></div></div> <div><div>Total</div><div>2247</div></div>												

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BUDGET ACTIVITY 4 - Demonstration/validation	PE NUMBER AND TITLE 0603802A - Weapons and Munitions - Adv Dev	PROJECT AS2
<p><u>FY 2002 Planned Program</u></p> <ul style="list-style-type: none"> • M203 UPGRADES • 256 Finalize Prototype • 125 System Demo • 125 Update Systems Development and Demonstration Plan • 38 Prepare/Staff IPR Package • M249 SHORT RANGE TRAINING AMMO • 50 Requirements Validation • 35 Prepare Performance Specifications • 60 Prepare Technical Assessment • M240 WEIGHT REDUCTION • 40 MS A • 30 Material Analysis/Welding • 30 Fabricate Welded Receivers • 100 Fabricate Lightweight Barrels • 50 Evaluate Alternate Trigger Frames • 100 Fabricate Lightweight Trigger Frames • 75 Complete Prototype Weapons • 125 Contractor Test • 179 Systems Demonstration /Report <p>Total 1418</p>		

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<p><u>FY 2003 Planned Program</u></p> <p>NON-TOXIC PRIMER DEVELOPMENT</p> <ul style="list-style-type: none"> • 150 Develop Composition/Preliminary Testing • 250 Refine Mix/Optimization • 100 Primer Testing • 200 Cartridge Testing • 100 Safety/Sensitivity Testing • 130 Lake City Producibility • 70 Center for Health Promotion and Preventive Medicine (CHPPM) Assessment • 42 Prepare Final Report and Documentation <p>Total 1042</p>		

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<u>B. Other Program Funding Summary</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Compl</u>	<u>Total Cost</u>
RDTE 0604802A, Project DAS1	6554	5719	8958	14754	10641	4423	2423	0	61105
<p><u>C. Acquisition Strategy:</u> Primary strategy is to solicit industry, make technical assessments, trade-off analysis, formulate and refine designs, test and evaluate items, and make determinations as to whether the item should be transitioned into Systems Development and Demonstration.</p>									
<u>D. Schedule Profile</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>		
M203 UPGRADES									
Prototype Development	1-3Q								
Design/Fabricate Hardware	2-4Q	1Q							
Test and Simulation	2-4Q	1Q							
Finalize Prototype		1-4Q							
System Demo		4Q							
Update Systems Development and Demonstration Plan		3Q							
Prepare/Staff IPR Package		4Q							
M249 SHORT RANGE TRAINING AMMO									
Contract Awarded	4Q								
Develop/Fabricate Prototype		1-2Q							
Conducted Proof of Principle Test		3-4Q							
Requirements Review/Prepare Performance Spec		2-3Q							
Requirements Validation		2-3Q							
Prepare Performance Specifications		2-3Q							
Prepare Tech Assessment		4Q							
M240 WEIGHT REDUCTION									
Trade-off Analysis	1Q								
Evaluate Alternate Material Receivers	2-3Q								
Evaluate Alternate Barrel Configuration	4Q	1Q							
MS A		1Q							

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<u>D. Schedule Profile (continued)</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Material Analysis/Welding		1-2Q					
Fabricate Welded Receivers		2-4Q					
Fabricate Lightweight Barrels		3-4Q					
Evaluate Alternative Trigger Frames		3Q					
Fabricate Lightweight Trigger Frames		4Q					
Complete Prototype Weapons		4Q					
Contractor Test		4Q					
Systems Demonstration/Report		4Q					
NON-TOXIC PRIMER DEVELOPMENT							
Develop Composition/Preliminary Testing			1Q				
Refine Mix/Optimization			2Q				
Primer Testing			3Q				
Cartridge Testing			3Q				
Safety/Sensitivity Testing			3Q				
Lake City Producibility			3Q				
Prepare Final Report and Demonstration			3Q				
Contract Award			3Q				

ARMY RDT&E COST ANALYSIS(R-3)									February 2002			
BUDGET ACTIVITY 4 - Demonstration/validation					PE NUMBER AND TITLE 0603802A - Weapons and Munitions - Adv Dev					PROJECT AS2		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Hardware Development	Various	Multiple	801	1537	1-4Q	556	1-4Q	650	1-4Q	0	3544	3544
Subtotal:			801	1537		556		650		0	3544	3544
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Development Support	MIPR	ARDEC, Picatinny, NJ	566	262	1-4Q	435	1-4Q	292	1-4Q	0	1555	0
b . ILS Support	MIPR	TACOM, Rock Island, IL	25	28	1-4Q	25	1-4Q	0		0	78	0
Subtotal:			591	290		460		292		0	1633	0

ARMY RDT&E COST ANALYSIS(R-3)									February 2002			
BUDGET ACTIVITY 4 - Demonstration/validation					PE NUMBER AND TITLE 0603802A - Weapons and Munitions - Adv Dev					PROJECT AS2		
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Testing	MIPR	ARDEC/ATC, Picatinny, NJ	100	260	1-4Q	222	1-3Q	0		0	582	0
Subtotal:			100	260		222		0		0	582	0
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Program Mgt	In House	OPMSA	167	135	1-4Q	170	1-4Q	100	1-4Q	0	572	0
b . TDY	In House	OPMSA	20	25	1-4Q	10	1-4Q	0		0	55	0
Subtotal:			187	160		180		100		0	627	0
Project Total Cost:			1679	2247		1418		1042		0	6386	3544

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BUDGET ACTIVITY 4 - Demonstration/validation				PE NUMBER AND TITLE 0603802A - Weapons and Munitions - Adv Dev					PROJECT AS3			
COST (In Thousands)				FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
AS3	OBJECTIVE INDIVIDUAL COMBAT WEAPON (OICW) PD/RR			25273	29979	26719	19952	4955	0	0	0	117197
<p><u>A. Mission Description and Budget Item Justification:</u>The Objective Individual Combat Weapon (OICW) represents the next generation of the individual weapon system for U.S. Armed Services. This modular dual barrel weapon system includes revolutionary 20mm high explosive air bursting munitions, standard NATO 5.56mm kinetic energy projectiles and an integrated, multifunctional, all environment, full-solution fire control. The OICW will provide decisively violent and suppressive target effects to ~500 meters. The OICW provides the soldier with a 300-500% increase in hit probability to defeat point, area and defilade targets out to ~500 meters. It will dramatically increase soldier survivability and versatility. The OICW will replace selected M16 Rifles and M4 Carbines. This system supports the Legacy transition path of the Transformation Campaign Plan (TCP).</p>												
<p><u>FY 2001 Accomplishments:</u></p> <ul style="list-style-type: none">4918 Program Development5554 PDRR Development Contract-System Design, Analysis & Development-Weapon10311 PDRR Development Contract-System Design, Analysis & Development-Fire Control3878 PDRR Development Contract-System Design, Analysis & Development-Ammunition612 PDRR Development Contract- Testing of the Weapon, Fire Control & Ammunition <p>Total 25273</p>												
<p><u>FY 2002 Planned Program</u></p> <ul style="list-style-type: none">3340 Program Development9900 PDRR Contract - Weapon Design and Analysis12539 PDRR Contract - Fire Control Design and Analysis1800 PDRR Contract - Ammunition Design and Analysis												

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<p><u>FY 2002 Planned Program (Continued)</u></p> <ul style="list-style-type: none"> 2400 PDRR Contract - System safety Testing Including Weapon, Fire Control and Ammunition <p>Total 29979</p> <p><u>FY 2003 Planned Program</u></p> <ul style="list-style-type: none"> 3582 Program Development 6800 PDRR Contract - Weapon Development and Fabrication 10137 PDRR Contract - Fire Control Development & Fabrication 5700 PDRR Contract - Ammunition Development and Fabrication 500 PDRR Contract - Testing of Weapon, Fire Control and Ammunition <p>Total 26719</p> <p><u>B. Other Program Funding Summary:</u> Not applicable for this item.</p> <p><u>C. Acquisition Strategy:</u> Based on the results of an Advanced Technology Demonstration (ATD) and the objective of the Operational Requirements Document (ORD) for the OICW system, a decision was made to enter PDRR rather than Engineering and Manufacturing (EMD) in FY00. The PDRR phase (Project DAS3) is utilizing modeling and simulation, as well as, developing, building and testing of the weapon system. The program is scheduled for an Army Requirements Oversight Council (AROC) in 3Q FY02.</p>		

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<u>D. Schedule Profile</u>		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
PDRR Development Contract - Weapon Design and Analysis		2Q	2Q					
PDRR Development Contract - Fire Control Design and Analysis		2Q	2Q					
PDRR Development Contract - Ammunition Design and Analysis		2Q	2Q					
Army Requirements Oversight Council			3Q					
PDRR Contract - Develop Weapon			3Q	2Q				
PDRR Contract - Fabricate Weapon					2Q			
PDRR Contract - Develop Fire Control			3Q	2Q				
PDRR Contract - Fabricate Fire Control					2Q			
PDRR Contract - Develop Ammunition			3Q	2Q				
PDRR Contract - Fabricate Ammunition					2Q			
PDRR Contract - Testing of Weapon, Fire Control and Ammunition						2Q		

ARMY RDT&E COST ANALYSIS(R-3)									February 2002			
BUDGET ACTIVITY 4 - Demonstration/validation					PE NUMBER AND TITLE 0603802A - Weapons and Munitions - Adv Dev					PROJECT AS3		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Hardware Development	Cost plus award fee	Alliant Technology Systems	7480	20355	2Q	26639	1-2Q	23137	1Q	18517	96128	95034
Subtotal:			7480	20355		26639		23137		18517	96128	95034
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Development Support	MIPR	Multiple	1369	2260	1-4Q	1363	1-4Q	1492	1-4Q	2995	9479	0
b . ILS Support	MIPR	Multiple	200	158	1-4Q	150	1-4Q	150	1-4Q	300	958	0
c . Training and Sims	MIPR	Multiple	230	646	1-4Q	0		0		800	1676	0
d . AMSAA	MIPR	APG, MD	150	132	1-4Q	137	1-4Q	200	1-4Q	240	859	0
Subtotal:			1949	3196		1650		1842		4335	12972	0

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BUDGET ACTIVITY 4 - Demonstration/validation					PE NUMBER AND TITLE 0603802A - Weapons and Munitions - Adv Dev					PROJECT AS3		
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Developmental Technical Testing	MIPR	ATEC, VA	400	380	1-4Q	300	1-4Q	300	1-4Q	600	1980	0
Subtotal:			400	380		300		300		600	1980	0
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Program Management	In House	PMSA	460	1250	1-4Q	1300	1-4Q	1350	1-4Q	1365	5725	0
b . Travel			30	92		90		90		90	392	0
Subtotal:			490	1342		1390		1440		1455	6117	0
Project Total Cost:			10319	25273		29979		26719		24907	117197	95034